

MEMORANDUM

TO: Governing Board Members

FROM: Terrie Bates, Director, Water Resources Division

DATE: November 10, 2011

SUBJECT: Authorize entering into a 42-month cooperative agreement with Florida Fish and Wildlife Conservation Commission for Oyster Monitoring in the St. Lucie River Estuary, Loxahatchee River Estuary, and Lake Worth Lagoon – 4600002548

Background: The purpose of this cooperative agreement is to continue the monitoring program for the eastern oyster *Crassostrea virginica* in southeast Florida supporting the RECOVER monitoring and assessment plan. Oyster beds provide important habitat for numerous organisms and are indicators of a healthy estuary. The change in spatial extent and health of oyster beds in southeast Florida estuaries are a key performance measure that will help assess the success of the CERP. Data from this monitoring program also support real-time management of regulatory releases from Lake Okeechobee, development of Lake regulation schedules and the St. Lucie River Watershed Protection Plan. Four aspects of oyster ecology are being monitored; (1) spatial and size distribution patterns of settled oysters, (2) distribution and frequency patterns of the oyster disease *Perkinsus marinus* ("dermo") (3) reproduction and recruitment, and (4) juvenile oyster growth and survival.

How this helps meet the District's 10-year Strategic Plan: One strategy identified in the Everglades Restoration and Capital Projects Program is to "increase understanding of coastal ecosystems through applied scientific, hypothesis-driven research." Through its participation in CERP and State-mandated restoration activities, the District is committed to the preservation and improvement of the aquatic resources within its boundaries. Oysters serve as key indicators of ecosystem health and restoration success in the North Estuaries. Knowledge of the location, quantity and health of oyster reefs will quantify the success of the C-44 Reservoir and Storm Water Treatment Area, the Indian River Lagoon South Project, the Loxahatchee River Watershed Restoration Project, and the Northern Everglades St. Lucie River Watershed Protection Plan.

Funding Source: This is a 42-month cooperative agreement with the Florida Fish and Wildlife Conservation Commission, for oyster monitoring in the Northern Estuaries on the Southeast coast of Florida in an amount not to exceed \$408,000, of which \$136,000 in ad valorem funds are budgeted; and the remainder is subject to Governing Board approval of the FY13-FY14 budgets, providing an effective date. (Contract No. 4600002548)

Explain what Resource Areas and what geographic areas this Board item will impact: Staff from the Applied Sciences Bureau, Coastal Ecosystems Section will manage the cooperative agreement. The study will be in the St. Lucie Estuary, Loxahatchee River, and Lake Worth Lagoon.

What concerns could this Board item raise: Two concerns are the functionality and cost effectiveness of the monitoring design, and the potential for redundancy of effort within various groups with the District. However, the monitoring plan was developed jointly by Restoration Coordination & Verification (RECOVER) scientists, from both the Coastal Ecosystems Section and external experts. It has been reviewed by the District's Environmental Monitoring Coordination Team (EMCT) in The scope of the oyster monitoring effort has been reduced under a recent system-wide monitoring optimization and prioritization completed by the RECOVER Monitoring and Assessment Program. The oyster monitoring project was determined to be one of the highest priority projects for CERP.

Why should the Governing Board approve this item: The health and location of oysters in these estuaries serve as a key indicator of success for Everglades Restoration in the St. Lucie River, Loxahatchee River and Lake Worth Lagoon. Sound monitoring information is very important in accurately assessing the benefit of Federal and State Restoration Projects, including the St. Lucie River Watershed Protection Plan, Lake Okeechobee Operational Protocols, the C-44 Reservoir and Stormwater Treatment Area, Indian River Lagoon-South Project, and the Loxahatchee River Watershed Restoration Project.

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